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CHARACTERISTICS OF CHILDREN AGES 24 MONTHS BY WEIGHT IN MOJO – KALITIDU – BOJONEGORO – EAST JAVA - INDONESIA

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Background: Age 0-24 months is a period of rapid growth and development that is often referred to as the golden period once the critical period. The Golden time can realize if infants and children obtain appropriate nutrition for optimal growth and development and can turn into a crucial period when nutritional deficiencies. Objective: To determine the characteristics of child ages 24 months by weight. Methods: This study is a descriptive study (nonexperimental). Data collection through a survey using questionnaires. The population in this study is the mother and children aged 24 months of 98 people. A sample of 45 children divides into three groups: 15 children with weight up, 15 children with weight fixed, and 15 children with weight loss. Independent variables consist of variables children eating patterns, giving complementary feeding, health condition, and parenting parents. The dependent variable is weight infants (up, fixed, and loss). Methods of data analysis using *Chi Square* statistical analysis. Result: Results from this study, variable children eating patterns consisting of frequency, amount or portions, and the types of food 6-9 months of age, shows the relationship has on body weight, with the results of the *Chi-Square* value of x2 count is greater than x2 table. Whereas the type of food the age of 0-6 months and 9-12 months, variable giving complementary feeding, variable health condition, and variable parenting do not have a significant correlation to body weight of child age 24 months, with the results of the *Chi-Square* value of x2 count is smaller than x2 table. Conclusion: that affect the weight of children aged 24 months is children eating patterns consisting of frequency, amount or portions, and the types of food 6-9 months of age. Variable giving complementary feeding, health condition, and parenting parents has no effect on body weight.

Keywords: Children Ages 24 Months, Weight

1. INTRODUCTION

Age 0-24 months is a period of rapid growth and development that is often referred to as the golden period once the critical period (Depkes, 2007). One of indicator to determine the growth toddlers are of weight. In infants healthy, his weight will always go up, follow the tape by the increase of age (Djaeni, 2009). Weight loss is one measure that gives an overview tissue mass, including body fluids. Weight loss is very sensitive to sudden changes either because of infectious diseases as well as decreased food consumption (Suhardjo, 2006). Toddlers impaired weight gain needs to get immediate attention, so as not to result in growth disorders, which ultimately affect the health of the public and lead to malnutrition (Wita, 1995).

In Indonesia malnutrition in children aged two years group showed the highest prevalence (Djaeni, 2006). This fact can see from the results of the study which concluded that all of the births only 50% of them will develop into a healthy child. While 30% of them will experience

malnutrition in childhood and 20% of them die before the age of 5 years. The opposite situation occurs in developed countries where the people have been very concerned about the composition and nutritional value of food (Apriadji, 2003). According to the Department of Health (2005) quoted by the Central Bureau of Statistics in 2003 about 5 million children under five (27.5%) malnourished, approximately 3.6 million children (19.2%) in the level of malnutrition, and 1.5 million children malnutrition (8.3%).

From the data obtained at the health center, the number of infants in Kalitidu is 3990, when weighing in August and September 2012. Toddlers whose weight does not go up is 98 children (2.5%), and the pressure dropped 40 toddlers (1%). According to the observations in Mojo Kalitidu Bojonegoro East Java by about 45% weight infants remains, 15% lost weight, and there were three children were under the red line.

Lack of nutrients in general (quality and quantity) causes disturbances in the process of growth, energy production, the body's defenses, the structure and function of the brain and behavior of children (Almatsier, 2003). According to Arisman (2004) nutritional conditions one including weight below the red line most commonly caused by economic factors is low, poor sanitation, low levels of parental education, consumption patterns that do not meet the need, number of siblings, child health and supplementary feeding early.

The Government has implemented various measures to reduce the number of toddlers who are malnourished. In 2005 has launched a National Action Plan for the prevention and eradication of malnutrition among others, by increasing the scope for early detection of illness through monthly weighing toddlers in Pos Pelayanan Terpadu (POSYANDU). Improve the coverage and quality of case management of malnutrition at the community health center or hospitals and households, providing Pemberian Makanan Tambahan Pemulihan (PMT-P) to malnourished children, increasing the knowledge and skills of mothers in giving care nutrition and providing nutritional supplementation (capsules of vitamin A). Another way the government is implementing a program of the gold standard baby food with the initiation of early breastfeeding, breastfeeding exclusively until the age of infants six months, giving complementary feeding gradually from family meals, as well as continue breastfeeding until the child was two years old (Supartini, 2004).

2. RESEARCH METHODOLOGY

This study is a descriptive study (nonexperimental). The data collection method used was survey method using a questionnaire as a data collection tool. Primary data obtained from the questionnaire form identity data of respondents and secondary data obtained from KMS (Kartu Menuju Sehat) to get an overview of the characteristics of children aged 24 months based on weight. This research was conducted in October to December 2012 in Mojo, Kalitidu, Bojonegoro, East Java, Indonesia.

The population in this study is the mother and children aged 24 months of 98 people. A sample of 45 children divides into three groups: 15 children with weight up, 15 children with weight fixed, and 15 children with weight loss. Independent variables consist of variables children eating patterns, giving complementary feeding, health condition, and parenting parents. The dependent variable is weight infants (up, fixed, and loss).

Methods of data analysis using *Chi Square* statistical analysis. Testing is done by comparing the x^2 count with x^2 table with a 95% confidence level (= 0.05), with the conclusion if x^2 number greater than x^2 table, then Ho is the reject, and Ha accepted which means partially independent variables have a significant influence on the dependent variable.

3. RESULTS AND DISCUSSIONS

Characteristics of 45 children aged 24 months show in Tables 1 through 4. Table 1 displays the relationship variables children eating patterns consisting of frequency, amount or portion of the meal and suitability of food. After statistical test *Chi Square*, the indicator eating frequency statistical test results show that x^2 count value = 8.715 is greater than the x^2 0.05 (2) = 5.99 so that Ho refused and Ha accepted which means partial meal frequency has a significant influence on body weight. Indicator test results indicate amount or portion was eating x^2 count value= 8.715 which is greater than the x^2 0.05 (2) = 5.99 so that Ho refused and Ha accepted which means that the number or size of the meal has a significant effect on body weight.

Meal type indicator test results of children aged 0-6 months showed x^2 count value = 1.260 which is smaller than x^2 0.05 (2) = 5.99, the kind of food children aged 6-9 months showed x^2 count value = 7.648 which is greater than x^2 0.05 (2) = 5.99, the type of food children aged 9-12 months show x^2 count value = 2.846 which is smaller than the x^2 0.05 (2) = 5.99. According to this statistic means the age of 6-9 months of food types have an influence on body weight, whereas the type of food the age of 0-6 months and 9-12 months has no effect on body weight.

Table 1 Distribution of Respondents by Eating Patterns

No	Indicator	Weight Up (%)	Weight Fixed (%)	Weight Loss (%)	x^2 Count Value
1.	Frequency of Eating				8.715
	a. ≥ 3 times/day	80	33.3	33.3	
	b. < 3 times/day	20	66.7	66.7	
2.	Amount or Portion Eating				8.715
	a. Exhausted	80	46.7	33.3	
	b. Residual	20	53.3	66.7	
3.	Type of Food At Age 0-6 Months				1.260
	a. Full Breast milk	66.7	53.3	46.7	
	b. Breast milk + complementary feeding	33.3	46.7	53.3	
4.	Type of Food At Age 6-9 Months				7.648
	a. Breast milk + complementary feeding	80	40	33.3	
	b. Just Breast milk or just complementary feeding	20	60	66.7	
5.	Type of Food At Age 9-12 Months				2.846
	a. Breast milk + complementary feeding	66.7	40	40	
	b. Just Breast milk or just complementary feeding	33.3	60	60	

Toddler eating frequency recommended is three times a day with a twice snack. Rate and food intake exceed the body's needs will lead to being overweight (Sulistyoningsih, 2011). Good nutrition combined with healthy eating habits and adequate coverage during the toddler will be the basis for good health in the future and undoubtedly will affect the weight gain of the children concerned.

Table 2 shows, the results of statistical tests first age given complementary feeding shows the x^2 count value = 1.607 which is smaller than the x^2 0.05 (2) = 5.99. The indicator frequency of complementary feeding show the x^2 count value = 1.260 which is less than the x^2 0.05 (2) = 5.99, and the statistical test of the type complementary feeding show x^2hit value = 3.750 which is smaller

than the additional food. According to that the provision of supplementary feeding no association with weight children aged 24 months.

Table 2 Distribution of Respondents by Complementary Feeding

No	Indicator	Weight Up (%)	Weight Fixed (%)	Weight Loss (%)	x² Count Value
1.	Age First gave MP-ASI				1.607
	a. ≥ 6 Months	60	60	40	
	b. <6 months	40	40	60	
2.	Giving frequency MP-ASI				1.260
	a. ≥ 3 times/day	53.3	46.7	33.3	
	b. < 3 times/day	46.7	53.3	66.7	
3.	Suitability Type MP-ASI				3.750
	a. Homemade	60	53.3	26.7	
	b. Instant	40	46.7	73.3	

The purpose of supplementary feeding is as a complement to breast milk so that children get enough energy and other nutrients to grow and develop. It is important to note that breastfeeding continues for two years since breast milk provide energy and high-quality protein (Depkes, 2005). The best food for infants before the age of 6 months is breast milk. Giving complementary feeding early (in children less than six months) can harm and not good, because the children can not digest well so that the weight gain is compromised, among others, weight gain too fast.

Table 3 Distribution of Respondents by Health Conditions

No	Indicator	Weight Up (%)	Weight Fixed (%)	Weight Loss (%)	x² Count Value
1.	Frequency of Sick				2.312
	a. Rarely	60	53.3	33.3	
	b. Often	40	46.7	66.7	
2.	Sick Current Conditions				3.750
	a. Active	60	53.3	26.7	
	b. Limp	40	46.7	73.3	

Based on Table 3, statistical test results showed the frequency of sick x² count value = 2.312 which is smaller than the x² 0.05 (2) = 5.99, and statistics show the sick current conditions x²hit value = 3.750 which is less than the x² 0.05 (2) = 5.99. According to that, there is no significant relationship between the health condition of the child's weight at the age of 24 months.

The infants and toddlers are particularly vulnerable to disease. In general, nutritional deficiencies are often the beginning of deficiency disorders of the immune system. The presence of an infectious disease may worsen the nutrition that can facilitate someone infectious diseases (Supariasa, 2002). The frequency of the disease that often affects children can act as a beginner occurrence of weight down as a result of decreased appetite, disturbance of absorption in the gastrointestinal tract or increased nutrient requirements by the disease.

Table 4 Distribution of Respondents by Parenting Parents

No	Indicator	Weight Up (%)	Weight Fixed (%)	Weight Loss (%)	x² Count Value
1.	Nanny				1.684
	a. Mother	86.7	73.3	66.7	
	b. Family / Helpers	13.3	26.7	33.3	

Based on Table 4, the statistical result of parenting parent shows x^2 count value = 1.684 which is smaller than the x^2 0.05 (2) = 5.99, which means that parenting does not have a significant relationship with the child's weight at 24 months. According to Soetjiningsih (2005), parenting behavior is practiced by caregivers (mother, father, grandmother or others) in providing food, health care, accompany sleep, stimulating as playing as well as emotional support that children need for growth and development. Also includes about compassion and responsibility of parents.

4. CONCLUSIONS

In conclusion, variable children eating patterns includes eating frequency, the amount or portions and the types of food 6-9 months of age have a significant effect on body weight, whereas the kind of food the age of 0-6 months and 9-12 months has no effect on body weight of child age 24 months. Variable giving complementary feeding, health condition, and parenting parents has no effect on body weight of child age 24 months.

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